

Construction Management & Engineering Topical Area Study Index

Section 1 Construction Management & Engineering Qualification Standard

- 1.1 Construction management and engineering personnel shall demonstrate a familiarity level knowledge of the techniques, equipment, and documentation of surveys.
- 1.2 Construction management and engineering personnel shall demonstrate the ability to establish other control points from a set of horizontal and vertical control points.
- 1.3 Construction management and engineering personnel shall demonstrate a working level knowledge of the principles and construction methods associated with grading, paving, and drainage for site preparation.
- 1.4 Construction management and engineering personnel shall demonstrate a working level knowledge of techniques for preparing cost estimates.
- 1.5 Construction management and engineering personnel shall demonstrate a working level knowledge of techniques for scheduling construction projects.
- 1.6 Construction management and engineering personnel shall demonstrate a familiarity level knowledge of contract law applicable to contract specifications and drawings.
- 1.10 Construction management and engineering personnel shall demonstrate the ability to read and interpret engineering fabrication, construction, and architectural drawings.
- 1.13 Construction management and engineering personnel shall demonstrate a working level knowledge of construction methods and accepted construction practices for the following:
 - Structural waterproofing
 - Architectural finishes
 - Roofing systems
 - Mechanical and electrical equipment installation
 - Material protection and storage
 - Construction site tools, equipment, and materials
- 1.16 Construction management and engineering personnel shall demonstrate a familiarity level knowledge of the basic principles and concepts of geoscience as applied to soil, erosion, foundations, and earth embankments.
- 1.18 Construction management and engineering personnel shall demonstrate a familiarity level knowledge of the Department of Energy's design and construction processes.
- 1.26 Construction management and engineering personnel shall demonstrate a familiarity level knowledge of computer applications used in construction management.
- 1.27 Construction management and engineering personnel shall demonstrate a familiarity knowledge of the systems for industrial waste treatment, storm drains, and sanitary waste treatment.

Section 1 (cont.)

- 2.1 Construction management and engineering personnel shall demonstrate the ability to evaluate contractor compliance with Department of Energy (DOE) Order 6430.1A, General Design Criteria.
- 2.11 Construction management and engineering personnel shall demonstrate a working level knowledge of the Uniform Building Code (UBC) industry standards for construction management and engineering.
- 2.12 Construction management and engineering personnel shall demonstrate a familiarity level knowledge of the Prestressed Concrete Institute (PCI) industry standards for construction management and engineering.
- 2.13 Construction management and engineering personnel shall demonstrate a working level knowledge of construction methods and accepted construction practices associated with reinforced concrete design as described in the following American Concrete Institute (ACI) documents:
- ACI-318, Building Code Requirements for Reinforced Concrete
 - ACI-349, Code Requirements for Nuclear Safety Related Concrete Structures
 - ACI-311.4R, Guide for Concrete Inspection
 - ACI-311.5R, Batch Plant Inspection and Field Testing of Ready-Mixed Concrete
 - ACI-305R, Hot Weather Concreting
 - ACI-306R, Cold Weather Concreting
- 2.14 Construction management and engineering personnel shall demonstrate a familiarity level knowledge of welding, weld testing and inspection, and the criteria in the following American Welding Society (AWS) codes:
- AWS D1.1, Structural Welding Code - Steel
 - AWS D1.2, Structural Welding Code - Aluminum
 - AWS D1.3, Structural Welding Code - Sheet Steel
 - AWS D5.2, Standard for Welded Steel, Elevated Tanks, Standpipes, and Reservoirs for Water Storage
- 2.15 Construction management and engineering personnel shall demonstrate a working level knowledge of construction methods and accepted construction practices associated with structural steel as described in the following documents:
- American Institute of Steel Construction AISC-M011, Manual of Steel Construction
 - American Institute of Steel Construction AISC-N690, Nuclear Facilities: Steel Safety-Related Structures for Design, Fabrication, and Erection
 - American Institute of Steel Construction AISC-S326, Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings; and
 - Uniform Building Code (UBC)
- 4.2 Construction management and engineering personnel shall demonstrate the ability to apply construction management principles in the execution of construction methods, constructability reviews, planning, and performance measurement for a construction project.
- 4.8 Construction management and engineering personnel shall demonstrate the ability to interact with Federal, state, local, and public stakeholder representatives.
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Section 2 Facility Representative Qualification Standard

- 1.24 Personnel shall demonstrate a working level knowledge of engineering fabrication construction, and architectural drawings.